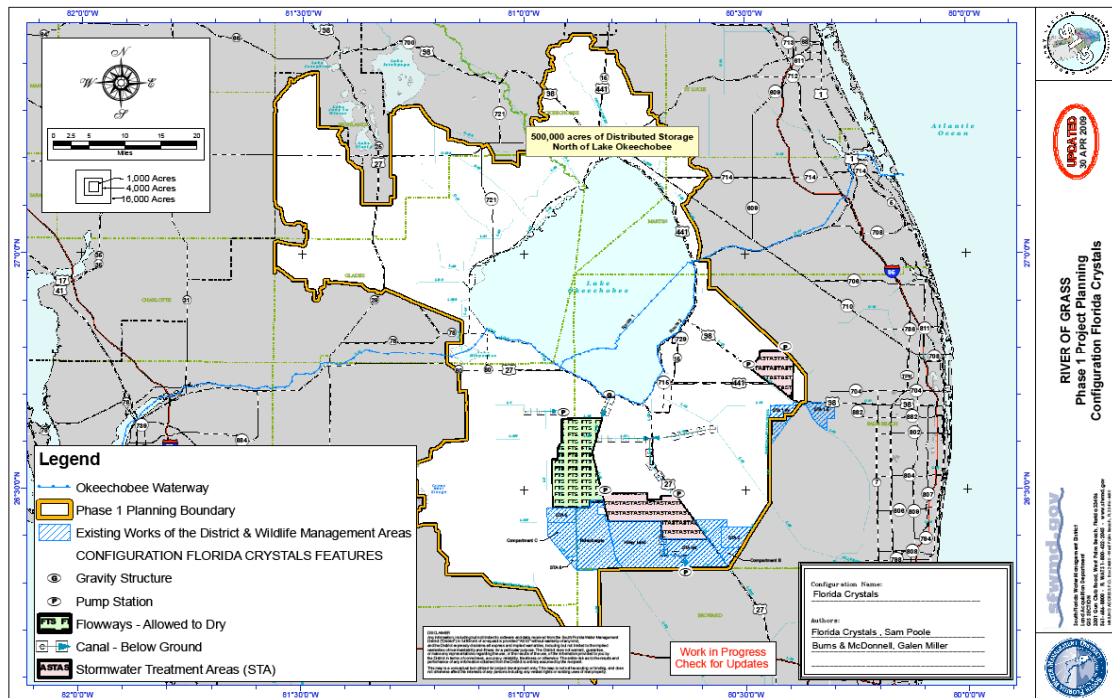


Florida Crystals (FC)

Sam Poole, Galen Miller

This configuration is intended to minimize community impacts and provide system enhancements to benefit the Everglades and estuaries at a cost that will allow completion of Comprehensive Everglades Restoration Plan (CERP) and Northern Everglades Projects.

Also included are 500,000 acres of dispersed storage/treatment north of Lake Okeechobee to provide storage and water quality benefits.



Major Components:

- North Dispersed Storage/Treatment - 500,000 acre-feet
- South Shallow Storage - 180,000 acre-feet
- South Stormwater Treatment Area - 32,000 net acres of treatment area
- East Stormwater Treatment Area - 14,000 net acres of treatment area

General Description of How Water Flows Through System/Operational Intent:

500,000 acres of dispersed storage north of Lake Okeechobee to provide storage and treatment of Lake Okeechobee watershed flows. Additional stormwater treatment area (STA) acreage is provided in the S-5A Basin to treat water before entering Water Conservation Area-1 (WCA-1). Water flows from Lake Okeechobee through the Miami Canal towards the Talisman STA. When flow exceeds the Miami Canal capacity, water will overflow the banks into a five (5) mile wide flowway with a maximum four (4) foot depth. Water can also be pumped into the flowway from the S-4 Basin. Two (2) pump

stations will bring flowway water and North New River water into the Talisman STA which provides treatment before discharging through a pump station into WCA-3.

Operational focus was on minimizing high flow events to the estuaries by redirecting these high flow events to the Everglades and did not focus on attempting to achieve the Everglades Synthetic High Carryover Demand time series or its associated carryover storage from wet or normal periods into drier conditions (both seasonally and inter-annually).

Total Acreage Identified:

- 555,555 acres north of Lake Okeechobee
- 83,500 acres south of Lake Okeechobee
- 16,180 acres east of Lake Okeechobee

Of the total acreage identified 39,113 acres is in public ownership and 60,567 acres would need to be acquired. The remainder of 555,555 acres would be addressed through the dispersed storage program.

Hydrologic Performance: Achieved 76% (overall result of 20 months total in Lake-triggered high discharges during the 41-year period of record) reduction in Lake-triggered high discharges to the Northern Estuaries. Received a 74% standard score for Everglades demand target delivered and a 73% standard score for dry season Everglades demand target delivered when the Everglades Synthetic High Demand Carryover time series is used to drive operations.

When the NSM ENP Mod 1 target time series is utilized and the model is not attempting to provide base flows to the Caloosahatchee Estuary or maintain existing level of low Lake Okeechobee performance, this configuration achieved 92% (overall result of 77 months total in Lake-triggered high discharges during the 41-year period of record) reduction in Lake-triggered high discharges to the Northern Estuaries. Received a 68% standard score for Everglades demand target delivered and a 68% standard score for dry season Everglades demand target delivered. In order to obtain these results it should be noted that there is a decrease in performance for the Lake Okeechobee Lower Stage Envelope Standard Score and an increase in the number of low flow months for the Caloosahatchee Estuary relative to the other configurations.

Water Quality Performance: This configuration included sufficient water quality treatment and does not require inclusion of any additional water quality treatment features for an inflow phosphorous concentration of 200 parts per billion (ppb) or lower from Lake Okeechobee.

Environmental / Ecological Advantages or Benefits: The configuration provides additional treatment and conveyance, decreases the number of Lake-triggered high discharges to the Northern Estuaries and improves total flows to the northern Everglades Protection Area.

Environmental / Ecological Impacts or Concerns: This configuration was not intended to achieve the Synthetic High Demand Carryover time series of flows to the Everglades

or its associated carryover storage from wet or normal periods into drier conditions (both seasonally and inter-annually). Operational focus was on minimizing high flow events to the estuaries by redirecting these high flow events to the Everglades.

Increased Spatial Extent of Shallow Storage/Treatment (≤ 4 feet water depth): 99,680 total acres; if dispersed storage is included then 655,235 total acres. Results of relative landscape viability comparisons between the alternative configurations (based on maintenance of minimum depths) indicate that this configuration fell in the low range.

Economic / Recreational Advantages or Benefits: This configuration is intended to minimize community impacts and provides system enhancements to benefit the Everglades and estuaries at a cost that will allow completion of CERP and Northern Everglades Projects. It attempts to balance benefits and costs and was not designed to achieve the Synthetic High Demand Carryover time series which results in greater storage needs.

Economic / Recreational Impacts or Concerns: Results of relative sugarcane production comparison between alternative configurations indicated that this configuration fell in the medium to high range.

Major Infrastructure Impacts: Power transmission lines, railroad lines and bridges will be impacted and will need to be replaced. Pump stations, control structures and additional canals will need to be constructed to offset impacts to local 298 drainage districts.

Operation and Maintenance (O&M) Considerations: Since the flowway will be dry a significant portion of the time, vegetation management will be required to manage undesirable shrubby or exotic vegetation within the footprint. This configuration contains a substantial amount of embankment (≤ 9 feet height) that will have to be maintained. This configuration relies primarily on gravity for storage features, pumping is primarily used in association with the treatment features.

Uncertainty Concerns: Uncertainty associated with the amount of treatment that flowways can provide and the potential increase in phosphorus loads after a flowway is rewetted.